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ANNUAL REPORT

OF THE

SUPERINTENDENT, BOTANICAL & FORESTRY DEPARTMENT,

FOR THE YEAR

1940/41.

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REPORT OF THE BOTANICAL & FORESTRY DEPARTMENT FOR THE YEAR 1940/41

INTRODUCTION

In accordance with instructions this Annual Report is presented in an abridged form. Information regarding the general policy and work of the department is obtainable from the Report for 1939. It is sufficient to state that the repercussions of the present war have interfered with normal operations and have necessitated the adoption of emergency measures. These have been connected, so far as this department is concerned, with firewood and have had repercussions both with regard to increased protection of forest areas and the exploitation of planted areas, neither of which would have arisen in normal times.

2. One change has to be recorded. This report covers a period of 15 months *i.e.* the whole of the year 1940 and the first three months of the year 1941. This change is due to Government's financial year being altered from the normal calendar year to the period April to March inclusive. Annual Reports in future will cover this latter period.

GENERAL REVIEW OF THE YEAR.

3. *Forestry*—The biggest problem was the question of protection of the wooded areas. Firewood prices remained very high and the situation became very serious towards the latter part of 1940. As a result Government took action and arrangements were made to import supplies from British North Borneo and Malaya. This had a slight effect on the prices in the early months of 1941 but cost of freight is now at too high a figure to allow for any further marked decrease in retail prices.

4. This situation had a disastrous reaction on the local wooded areas and increased protection became an urgent necessity if control was to be maintained. Measures were taken accordingly and despite heavy depredations, it is considered that these were kept down to the lowest possible minimum under existing conditions. Figures for arrests given later are illuminating and give some idea of the extent of the problem.

5. The urgency of the situation combined with possible involvement in hostilities forced Government to turn to local areas as a means for obtaining additional supplies of fuel. As a result the department carried out an extraction programme in the Fanling area which was still in progress at the end of the year (March).

6. For the remainder, the normal routine work was carried out and as much afforestation as possible put in hand. Forest lot holders have cut very heavily and the enforcement of a new system of holdings of this nature would appear to present less difficulty in the future as the importance of the question of compensation is correspondingly reduced. It is intended that the whole system of afforestation of this nature shall be reorganized as soon as conditions will allow for action in this direction.

7. *Agriculture*—As a result of the surveys made during the previous year, various discussions were held with departmental representatives covering such matters as areas available for development, supplies of cheap fertilizer, etc. The necessity for the establishment of agriculture on a sounder basis was recognized by Government and the department was instructed to prepare estimates for the inclusion of an agricultural section under the departmental estimates for the year 1941/42. Prior to this it had been the intention of Government to put forward the claims of agriculture under the Colonial Development & Welfare scheme, to which end a paper entitled "Agriculture in the Colony of Hong Kong" had been prepared by the Superintendent and submitted to Government in support of the proposal. The direct action subsequently approved rendered unnecessary further action in this direction.

8. The question of the utilization of town wastes, particularly nightsoil (the chief form of fertilizer in the New Territories), received considerable attention and it is hoped that these may play a large part in future agricultural development.

9. The question of the disposal of the large number of refugees in the Colony produced proposals for utilizing their services agriculturally, in thinly populated areas, such as Lantao Island and in the development of sloping land generally, for the production of vegetables etc. for the local market. Considerable semi-official investigations were made and the Superintendent was called upon for information and advice on various points connected with the agricultural side of the matter. In his capacity of Agricultural Adviser, the Superintendent advised Government on the salient points involved in the matter and laid special emphasis on the need for very careful consideration before large scale expenditure was embarked upon. It is the writer's considered view that schemes of this nature, however urgent the situation may appear to be, are unlikely to be successful unless carried out under proper agricultural supervision. As the Colony will not have the requisite facilities available until after the establishment of the Agricultural Section, any scheme embarked upon at this stage should be considered as a short term measure only to meet emergency requirements. The agricultural development of the Colony generally must be a long term matter and be in the hands of people qualified to carry it through.

10. *Horticulture*—This proceeded on general lines. It is worthy of record that the use of fertilizers and composts over a period of two years in lieu of animal manure (due to health precautions) in departmental operations of this type had no visible effect on the quality of the flowers and vegetables produced, in fact, the latter appeared to improve in quality. However, arrangements have now been completed for the resumption of the use of "safe" (*i.e.* matured) animal manure and it is considered that a combination of these various types of manuring will be the best thing in the long run.

11. *Weather*—The rainfall was above normal being 122.34 inches in 147 days. Distribution was as follows:—January to March 14.59 ins; April to June 52.56 ins; July to September 49.82 ins; October to December 5.37 ins. Typhoon signals were hoisted on four occasions but moderate gales only were experienced.

FORESTRY

12. *Area of Forest Land*—Government afforested areas in the Colony amount to a total of approx. 22.9 sq. miles. The area under the "forest lot" system remained at approx. 81 sq. miles.

13. *Forest Reservation*—Little progress was made in this matter owing to the generally disturbed conditions. The Shing Mun area was provisionally demarcated as a forest reserve, planting being carried up to the 1,000 ft. contour. When conditions are more favourable the area will be properly surveyed and legally constituted. Similar action will be taken to increase the area of the Taipo Kau forest reserve.

14. *Forest Communications*—These consist of forestry paths, the total length being approx. 54 miles.

15. *Summary of Forestry Offences*—Convictions for forestry offences were as follows:—1940—departmental 2,387, police 2,442, Total 4,829; 1941 (3 months)—departmental 645, police 741, Total 1,386; Grand total for 15 months—6,215. Figures for 1939 were 2,700 therefore the 1940 convictions represent an increase of 79% on the previous year. Much time and labour has had to be devoted to this matter and there is little likelihood of any improvement under present conditions.

16. *Progress in Afforestation*—A total of 215½ acres was afforested during the year as follows:—Hongkong 59½ acres; Kowloon 74 acres; New Territories (Shing Mun) 82 acres. This covered broadcasting with Pine seed (*Pinus Massoniana* Lamb.) and planting of broad leaved trees. The cost of the operations involved were—(*i*) broadcasting (with preliminary preparation *i.e.* burning over etc.)—$7.75 per acre (inclusive) (*ii*) planting—$11 per acre (exclusive of nursery costs).

17. *Outturn of Timber*—The outturn of timber for supply to Stores Department for re-issue to Government departments as fuel was 751.9 tons of timber and 5.9 tons of brushwood. Its value was estimated at $26,311 at current prices. Costs of extraction were $3.08 per ton or about 18⅓ cents per picul. Extraction for emergency purposes was begun on 14.2.41 in the Fanling area. By the end of March 1738½ tons of pinewood and 541 tons of brushwood had been extracted and passed to Stores Department. After allowing for shrinkage the value of the timber was estimated at $62,469 at current prices. Cost of extraction to railhead (Fanling station) was $4.80 per ton or about 25½ cents per picul. (H.K. $1=1s 3d; 1 picul=133 lbs).

18. *Imports and Exports of Timber*—Standard Form X covers the year 1940 only. The chief differences from the previous year are additional net imports as follows:—*Timber*—2,354 hundreds of cubic feet valued at $1,180,083 and *Firewood*—585,660 piculs valued at $1,870,064. Imports of firewood from Chinese territory have practically ceased and 86.4% of the total imports were from British North Borneo and Malaya. The thanks of the department are due to the Imports and Exports Department for the statistical data.

19. *Revenue and Expenditure*—Revenue for the period 1940/41 (15 months) was $100,072.15 (this includes the estimated value of timber extracted and passed to Stores Department). Expenditure for the same period was $133,744.13 (this includes additional expenditure amounting to $18,275.74 for increased protection services).

20. *Strength of Staff*—The permanent staff of the forestry section remained unchanged. The average number of temporary employees was 135 per diem: of these, an average of 105 was employed on protection work and 30 on routine work.

21. *Taipo Kau Forest Reserve*—The chief items dealt with were (*i*) erection of plant house and pottingshed and preparation of nursery immediately adjacent (*ii*) draining and levelling further old padi fields in the valleys (*iii*) continuation of pine experiments (*iv*) planting of 5,156 Tung (*Aleurites montana* Wils) being the commencement of a new plantation of this species and (*v*) addition of 176 *Bambusa textilis* McClure, (*B. dolichomerithalla* Hayata) to the previous plantings.

22. *Protection of Plantations*—Clearing of fire barriers and forestry paths was carried out as usual. The former totalled 55.7 miles and the latter 49 miles. Eleven outstations were erected (8 in Hongkong and 3 in Kowloon) at various points in the forest areas in connexion with forest protection measures.

23. *Entomological Notes*—There were very severe attacks of pine tree caterpillars in several districts. Two species, *Dendrolimus punctatus* and an undetermined species were involved. Numerous larvæ were found to be parasitized by two or three distinct species of wasps and collections of caterpillars, moths and wasps were made and are awaiting more settled times for identification.

24. *Shing Mun Area*—Further planting to the extent of 82 acres was carried out in this area. Of this, 50 acres were burnt over and broadcast with pine seed and the remainder planted with various broad leaved species, in blocks, 13,950 plants being used. Pine seed broadcasting has proved very successful to date and the majority of the broad leaved species are doing well. *Casuarina equisetifolia* (1060) does not appear to be thriving.

25. *Other Activities—Roadside Tree planting* totalled 3,958 plants; 1,077 on Hongkong Island and 2,881 in the New Territories. *Brushwood and Undergrowth clearing* totalled 177 acres at a cost of $3,976 = $22.40 per acre. *Scenic Development*—1,231 flowering shrubs were planted out in various places. *Miscellaneous Tree Planting*—3,316 trees were planted and 150 lbs pine seed broadcast in connexion with military requests. These were almost all in connexion with defence works. A total of 510 trees were planted at the Country Club, Fanling in continuation of the planting begun in 1939.

HERBARIUM AND LIBRARY

26. As a precautionary measure, the herbarium (approx. 40,000 specimens) was evacuated to Malaya on 25.7.40. Arrangements were made with the Director of Gardens, S.S. for accommodation at the Waterfall Garden, Penang. A small set of Hongkong duplicates was retained for departmental use.

27. Additions to the library were—11 books, 439 periodicals, 43 annual reports and 306 leaflets.

GARDENS, PARKS AND GROUNDS

28. The Botanic Gardens and Government House garden were kept in good condition and various additions of a planting nature were made. Of the numerous other areas maintained by the department, Kowloon Hospital grounds received considerable attention. Some 525 plants, chiefly flowering trees and shrubs, being planted out in order to make the grounds more colourful. Considerable planting and turfing was carried out at various minor hospitals and refugee camps.

AGRICULTURE

29. *Sheung Shui Experimental Garden*—The general routine work was carried on. *Experimental*—Special attention was paid to the experimental work connected with potatoes, sweet potatoes, rice and tung oil. The sweet potato varieties imported from Malaya are all superior in quality to the local variety but it will be necessary to obtain better returns from them, both of tubers and haulms, before they are likely to appeal to the local grower. *Tung Oil*—Budding of "tung oil" was carried out in the nursery beds and topgrafting on selected trees, with good success. Bud wood from high yielding trees was used in the operation and it is hoped in this way to build up a plantation which will demonstrate the possibilities of this crop in the Colony.

Fruit—The set of Californian fruit trees planted at the Taipo Kau forest reserve showed good growth and a grape fruit and an orange (both excellent types) produced fruits. There is a large field for development in this direction for local market supplies.

30. *Inspection of Plants & Plant Products for Export*—There was a considerable increase in the export of vegetables (fresh and dry) and *Cassia* bark. Total inspections were 299 covering—Vegetables—233, Sugar Cane—23 (315,720 canes.) *Narcissus Tazetta* L.—16 (29,580 bulbs). *Cassia* bark—23 (3,795 bales). Living plants—1. Vegetables went chiefly to the Philippine Islands, Sugar Cane to Singapore, *Narcissus Tazetta* L. to Honolulu and *Cassia* bark to London, Alexandria and South America.

31. *Goats*—The number of goats under permit in 1940 was as follows:—Hongkong 57, Kowloon 127, New Territories 242. Total 426. In addition a stock up to 500 head was maintained on Lamma Island for market purposes.

32. *Seed Collection and Exchange*—Exchange of seeds with various countries was carried on as usual.

REVENUE AND EXPENDITURE

33. Expenditure on all branches of the department for the fifteen months period was $209,367.46 and Revenue $104,421.17. The latter is made up of (*i*) actual $15,641.17 and (*ii*) estimated $88,780 (being value of firewood passed to Stores Department).

STAFF.

34. There were no changes in the senior staff during the year. The abnormal conditions made heavy demands on the staff generally and this, coupled with duties involving volunteers, essential services etc., in which practically all the more senior officers are concerned, made up a very strenuous year and I should like to take this opportunity of thanking all officers for their loyal service and co-operation. The Superintendent was gazetted Agricultural Adviser as from 24.9.40.

35. The death in England of Mr. H. Green (late Superintendent) on 14.1.41 following an operation is recorded with regret. Mr. Green retired on 28.4.38 after 27 years service in the Colony. An appreciation of Mr. Green's services appeared in the Annual Report for 1937.

F. FLIPPANCE,
Superintendent,
Botanical & Forestry Department
&
Agricultural Adviser.

15th August, 1941.

Standard Form II.

STATEMENT IN ACRES OF PROGRESS IN FOREST RESERVATION AND DEMARCATION DURING THE YEAR ENDED 31ST MARCH, 1941.

Territorial unit and/or category of reserve.	Reserves approved but not legally constituted.			Reserves constituted but not completely demarcated.				Reserves constituted and demarcated.			
	On 1st January 1940.	Added during year.	On 31st March 1941.	On 1st January 19 .	Added during year.	Excluded on transferred to Col. 10.	On 31st December 19 .	On 1st January 1940.	Added during year.	Excluded during year.	On 31st March 1941.
1	2	3	4	5	6	7	8	9	10	11	12
Hong Kong Island	—	—	—	—	—	—	—	328 acres (T)	—	—	328 acres (T)
New Territories	337 acres (T)	—	337 acres (T)	—	—	—	—	—	—	—	—

Standard Form X.

IMPORTS AND EXPORTS OF TIMBER, WOOD PRODUCTS AND MINOR FOREST PRODUCE DURING THE YEAR ENDED 31ST DECEMBER, 1940.

Category.	Gross imports.		Gross exports.		Net imports		Average annual net imports for quinquennium ended 31st December, 1940.		Percentage by value of gross imports *or exports* from or to different sources or destinations during the year 1940.	
	Hundreds of cu. ft.	Value in H.K. $	Hundreds of cu. ft.	Value in H.K. $	Hundreds of cu. ft.	Value in H.K. $	Hundreds of cu. ft.	Value in H.K. $	Imports from.	Exports to.
Hardwood	14,806	1,670,676	102	15,158	14,704	1,655,518	8,036	826,296	Canada 0.9; Malaya 1.1; B.N. Borneo 77.1; Neth. E. Indies 5.7; Philippines 7.8; Thailand 6.7; U.S.A. 0.7.	Macao 81.3; N. China 12.0; K. C. Wan 4.4.
Teakwood	3,933	996,855	514	122,113	3,419	874,742	2,593	614,692	Fr. Indo China 11.2; Neth. East Indies 3.2; Thailand 85.6.	Macao 99.8.
American Pine	4,801	938,349	278	48,150	4,523	890,199	5,322	664,616	Canada 29.5; U.S.A. 70.5.	Macao 86.4; India 11.2; M. China 2.3.
China Fir	1,209	154,035	63	9,556	1,146	144,479	2,618	203,173	S. China 1.5; K. C. Wan 98.2. Macao 0.3.	Macao 100.
Softwoods, n.o.e. ...	5,470	655,209	203	25,473	5,267	629,736	5,407	478,771	Malaya 34.7; B.N. Borneo 30.9; N. China 0.1; K. C. Wan 0.5; U.S.A. 33.8.	Macao 97.7; K. C. Wan 2.3.
All Timber, n.o.e. (Value only)	—	1,548,836	—	460,035	—	1,088,751	—	855,988	U.K. 0.8; Canada 0.4; Australia 2.2; Malaya 15.5; B.N. Borneo 27.9; N. China 1.3; S. China 0.6; Fr. Indo China 7.3; K. C. Wan 4.9; Macao 0.3; Philippines 0.2; Thailand 36.9; U.S.A. 1.7.	Macao 50.6; N. China 46.8; S. China 1.3.
Sleepers	109	22,626	—	—	109	22,626	192	38,230	Malaya 100.	
Total.....	30,328	5,986,586	1,160	680,535	29,168	5,306,051	24,168	3,681,766		
Firewood (Piculs)	3,083,631	4,751,203	32,541	50,710	3,051,090	4,700,493	2,596,195	2,666,669	Malaya 42.0; Br. N. Borneo 44.4; Fr. Indo China 0.6; K. C. Wan 7.3; Neth. East Indies 5.7.	Macao 100.
Charcoal (Piculs)...	477,189	1,685,701	39,606	135,716	437,583	1,549,985	371,519	956,693	Malaya 27.9; Br. N. Borneo 13.1; N. China 0.4; Fr. Indo China 34.4. K. C. Wan 17.0; Macao 1.7; Thailand 5.5.	Macao 76.8; M. China 10.7; N. China 5.3.
Grand Total (Value only)	—	12,423,490	—	866,961	—	11,556,529	—	7,305,128		

One dollar Hong Kong=1s./3d.

One picul=133 lbs.